COMITATO GUGLIELMO MARCONI
INTERNATIONAL

TEMISTOCLE CALZECCHI ONESTI
(physical; n. Lapedona 14 December 1853,
m. Monterubbiano, Ascoli Piceno, 22 November 1922).

The figure of Temistocle Calzecchi Onesti is to be considered of capital importance - even if on the whole little known, or known only to the employees - for the decisive discovery made by him of the "Coherer", a discovery that opens the way to further research in the field of wireless telegraphic transmissions. This invention was then applied by Guglielmo Marconi in his first famous rudimentary device for receiving and transmitting acoustic signals at a distance.

He was born occasionally in Lapedona (Ascoli Piceno), as his father Icilio, a doctor in Monterubbiano, had momentarily replaced the local medical facility. But Monterubbiano can be considered his real homeland, given that in this country he spent his youth, he studied there in part and spent many periods of his life in the sixteenth-century maternal palace. Graduating from the University of Pisa in physical and mathematical sciences, he initially devoted himself to teaching in middle schools and then to scientific research. On 6 December 1879 he was appointed Professor of Physics at the R. Technical Institute of L'Aquila. In 1883 he was transferred on his request to the R. Liceo Annibal Caro di Fermo. In 1884 he began his well-known studies on the electrical resistance and conductivity of metal filings. In 1886 he founded the meteorological observatory at the expense of the Municipality of Fermo and the Central Office of Meteorology and Geodynamics on the premises of the high school physics laboratory in Fermano. which today have acquired fundamental importance especially in the aeronautical field. In 1898 he moved to the R. Liceo C.Beccarla of Milan as a professor of physics. on the premises of the high school physics laboratory they stop, the meteorological observatory at the expense of the Municipality of Fermo and of the Central Office of meteorology and geodynamics, organizing a meteorological information service throughout the area stop, thus anticipating those studies that today have purchased fundamental importance especially in the aeronautical field. In 1898 he moved to the R. Liceo C.Beccarla of Milan as a professor of physics. on the premises of the high school physics laboratory they stop, the meteorological observatory at the expense of the

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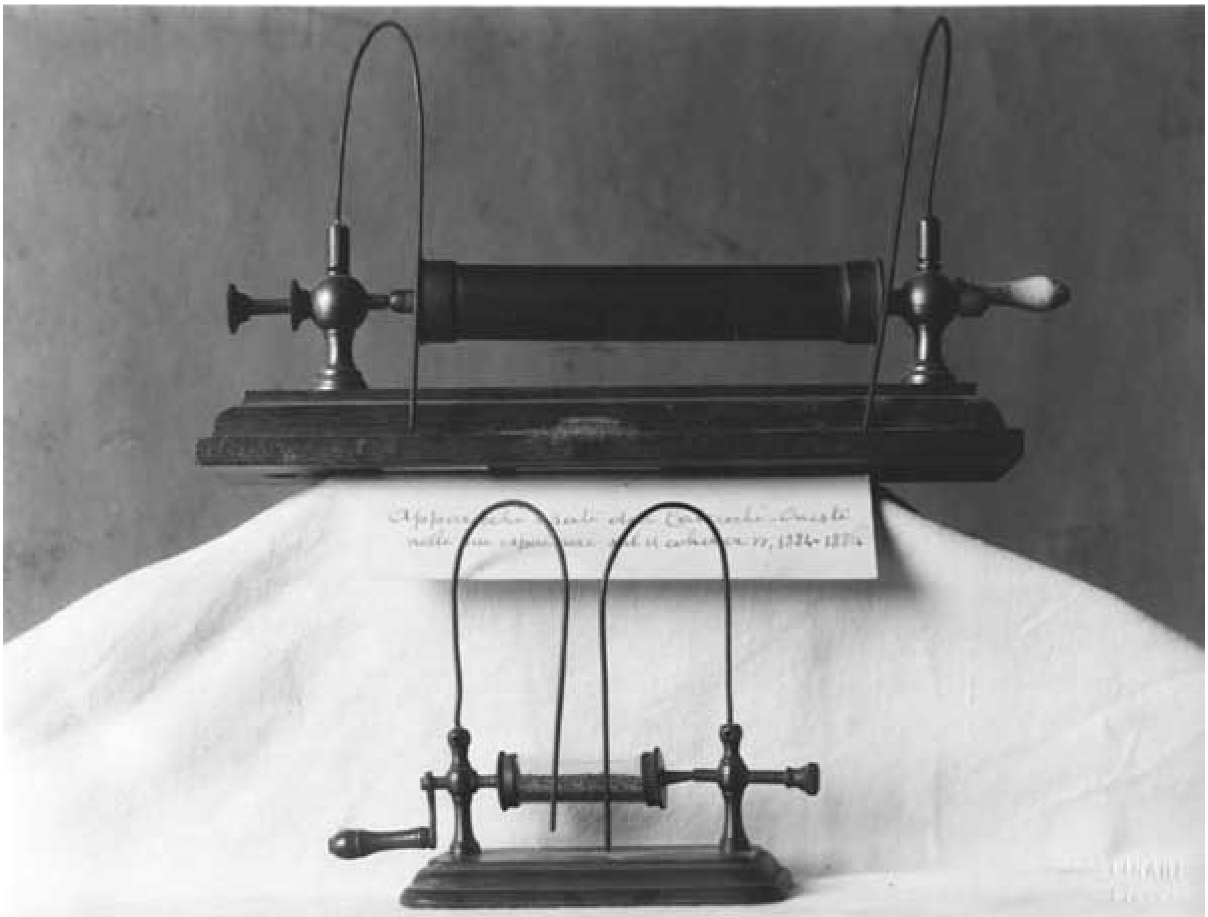
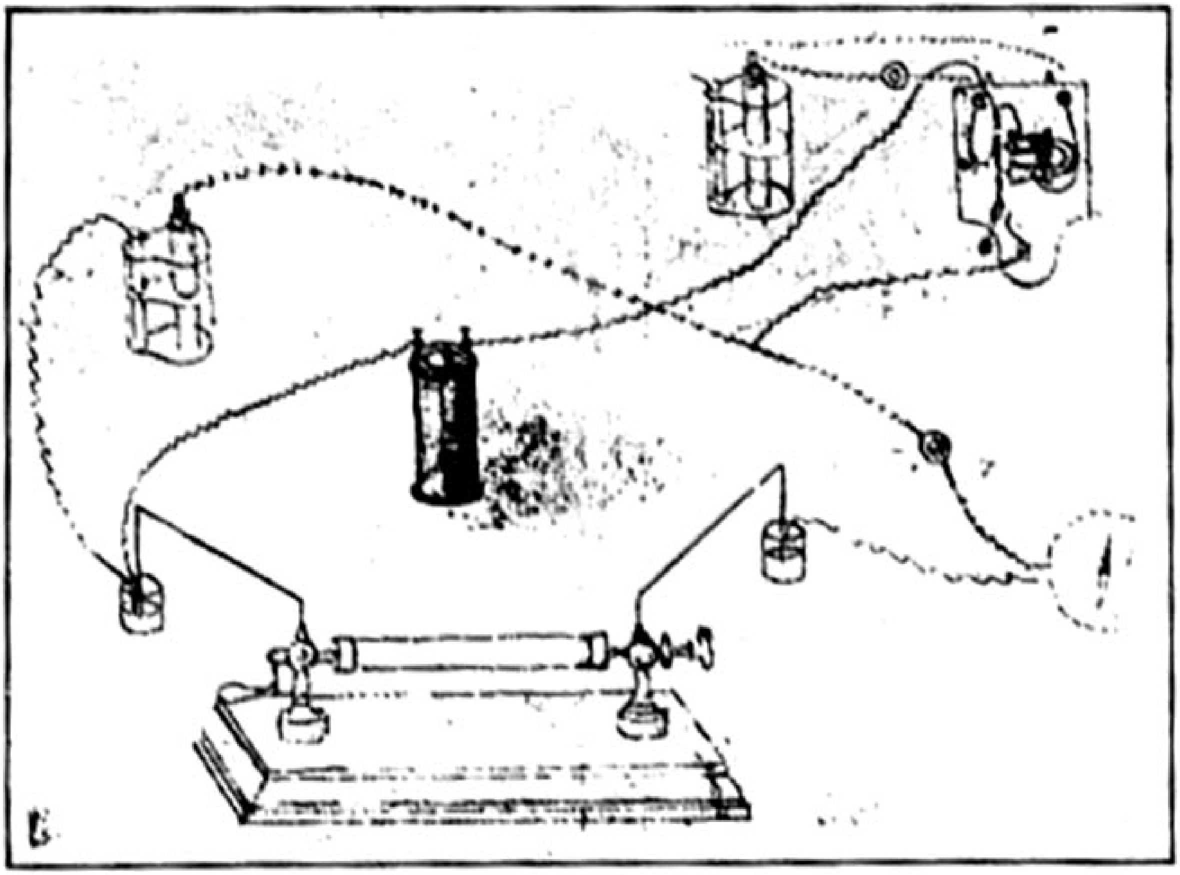
In 1889 we find him, as assistant to the famous physicist Galileo Ferrarsi, in testing the Fermo electric lighting system. Meanwhile in those years the great discoveries of Hertz were announced in the field of physics, and later, those of Röntgen by Crookes, the great experiences of Tesla and the genius studies of Righi on the transmission of wireless telegraphic signals. Since 1884, the most important research began that made him famous in the international scientific field: the discovery of the properties of metal powders to acquire a strong electrical conductivity following various excitations, such as extracurrents, electric discharges, electrostatic inductions; etc.

This appliance consists of a glass tube containing nickel powder and silver with traces of mercury, placed between two stainless electrodes, in a vacuum. When it is hit by electromagnetic fields, the high resistance of the dust becomes relatively low and then loses its conductivity by percussion (decoherization). The studies of Temistocle Calzecchi Onesti predated the French physicist Branly and those of the Lodge in England by almost six years, to whom the discovery is mostly attributed. This fact gave birth to a lively controversy, in which Themistocles Calzecchi Onesti participated directly, claiming his invention.



Original Calzecchi Onesti appliances



Il coherer di Temistocle Calzecchi

Original sketch by Temistocle Calzecchi Onesti depicting
the device to test the conductivity of metal powders.
The Leclanchè batteries, the spark generator bell,
the coil to increase the extra current at the opening of the contact and, in the foreground, the filing tube are clearly visible .

The guide of Temistocle Calzecchi Onesti (1853-1922)

Temistocle Calzecchi Onesti (1853-1922), the coherer, the scientific literacy of united Italy

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